# IN THE CLAIMS

Please cancel claims 3, 8, 10 and 18 without prejudice or disclaimer, and amend

claims 1, 2, 4 thru 7, 9, 11 thru 17 and 19 thru 26, as follows:


1    1.    (Currently Amended)    A multi-channel image encoding apparatus for

2    selectively receiving image signals transmitted through a plurality of input channels and

3    encoding the image signals, comprising:

4        a channel data processor comprising a frame buffer group including a plurality of

5    frame buffers for each input channel in order to receive a plurality of frame data through

6    the plurality of input channels and to store the plurality of frame data, the channel data

7    processor [[for]] selecting data transmitted to the frame buffer group to output the

8    selected data, the channel data processor storing each unit of the frame data into the

9    frame buffer group corresponding to each channel in accordance with a set-up input

10   channel selection order; and

11       an encoder for encoding image signals output from the channel data processor with

12   a Moving Picture Experts Group method;

13       said channel data processor comprising:

14           a first multi-switch unit for selectively contacting each of the input

15       channels with the frame buffer group corresponding to each of the input

16       channels; and

17           a second multi-switch unit for selectively contacting the frame

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18    buffer group with the encoder and outputting data output from the frame

19    buffer group to the encoder.


1        2. (Currently Amended)   The multi-channel image encoding apparatus of claim 1,

2    ~~further comprised of outputting~~ wherein the plurality of frame data stored in the frame

3    buffer group is outputted to the encoder for each channel.


     Claim 3. (Canceled)


1        4. (Currently Amended) The multi-channel image encoding apparatus of claim

2    [[3]] 1, ~~further comprised of the~~ said first multi-switch unit storing each unit of the frame

3    data into the frame buffer group corresponding to the input channels in accordance with a

4    set-up input channel selection order, and the second multi-switch unit contacting with the

5    frame buffer group in accordance with a set-up channel contact order and outputting the

6    plurality of frame data stored in the contacted frame buffer group for each of the input

7    channels.


1        5. (Currently Amended) The multi-channel image encoding apparatus of claim 4,

2    ~~with the~~ said encoder comprising:

3        a discrete cosine transformer for performing a discrete cosine transform with

4    respect to the image signals [[input]] inputted from the second multi-switch unit;

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5          a quantizer for quantizing signals ~~output~~ <u>outputted</u> from the discrete cosine

6     transformer and outputting the quantized signals;

7          an inverse quantizer for inversely quantizing the quantized signals;

8          an inverse discrete cosine transformer for performing an inverse discrete cosine

9     transform with respect to the inversely quantized signals;

10          a prediction memory;

11          an adder for adding data ~~output~~ <u>outputted</u> from the prediction memory and the

12     inversely discrete cosine transformed data, and outputting the added data to the

13     prediction memory; and

14          a subtracter for subtracting data ~~output~~ <u>outputted</u> from the prediction memory from

15     signals [[input]] <u>inputted</u> through the second multi-switch unit, and outputting the

16     subtracted signal to the discrete cosine transformer.


1          6. (Currently Amended) The multi-channel image encoding apparatus of claim 5,

2     ~~with the~~ <u>said</u> encoder further comprising:

3          a variable length encoder for performing [[a]] variable length encoding with

4     respect to signals ~~output~~ <u>outputted</u> from the quantizer, and outputting the encoded

5     signals; and

6          a parser for loading channel information about each frame to signals ~~output~~

7     <u>outputted</u> from the variable length encoder, and outputting the signals.


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1    7.  (Currently Amended) The multi-channel image encoding apparatus of claim

2    [[3]] 1, further comprising:

3        a channel selection unit including a key for setting up a channel select pattern

4    [[in]] with regard to the plurality of input channels; and

5        a channel controller for controlling the first multi-switch unit and the second

6    multi-switch unit in accordance with the channel select pattern set up by the channel

7    selection unit.


8    Claim 8. (Canceled)


9    9.  (Currently Amended) A multi-channel image encoding apparatus for encoding

10    image signals [[input]] inputted through a plurality of input channels, comprising:

11        a channel data processor for selectively contacting with the plurality of input

12    channels and selectively outputting transmitted image signals for each of the input

13    channels; and

14        an encoder for encoding signals output outputted from the channel data processor

15    by using a previous frame data stored in a prediction memory provided for each

16    corresponding channel;

17        said channel data processor comprising:

18            a first multi-switch unit for selectively contacting the input channels

19            with frame buffer corresponding to each of the input channels; and

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20        a second multi-switch unit for selectively contacting the frame

21     buffer with the encoder and outputting data outputted from the frame buffer

22     to the encoder.


Claim 10. (Canceled)


1     11. (Currently Amended) The multi-channel image encoding apparatus of claim

2     [[10]] 9, ~~with the~~ said encoder comprising:

3     a discrete cosine transformer for performing a discrete cosine transform with

4     respect to the input image signals;

5     a quantizer for quantizing signals ~~output~~ outputted from the discrete cosine

6     transformer:

7     an inverse quantizer for inversely quantizing the quantized signals;

8     an inverse discrete cosine transformer for performing an inverse discrete cosine

9     transform with respect to the inversely quantized signals;

10     an adder for adding data ~~output~~ outputted from the selected prediction memory and

11     the inversely discrete cosine transformed data, and outputting the added data to the

12     prediction memory of corresponding channels;

13     a subtracter for subtracting data ~~output~~ outputted from the prediction memory from

14     signals [[input]] inputted through the second multi-switch unit, and outputting the

15     subtracted signal to the discrete cosine transformer; and

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16 a prediction memory selection unit for controlling the prediction memory of

17 channels corresponding to the selected channels by the second multi-switch unit to be

18 contacted between the adder and the subtracter.


1 12. (Currently Amended) The multi-channel image encoding apparatus of claim

2 11, ~~with the~~ said encoder comprising:

3 a variable length encoder for performing a variable length encoding with respect to

4 signals ~~output~~ outputted from the quantizer; and

5 a parser for loading channel information about each frame to signals ~~output~~

6 outputted from the variable length encoder, and outputting the signals.


1 13. (Currently Amended) The multi-channel image encoding apparatus of claim

2 11, further comprising:

3 a channel selection unit having a key for setting up a channel select pattern [[in]]

4 with regard to the plurality of input channels; and

5 a channel controller for controlling the first multi-switch unit, the second multi-

6 switch unit, and the prediction memory in accordance with the channel select pattern set

7 up by the channel selection unit.


1 14. (Currently Amended) An encoding method of a multi-channel image encoding

2 apparatus for selectively receiving image signals transmitted through a plurality of input

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3    channels and encoding the image signals, comprising the steps of:

4        outputting unit frame data transmitted ~~corresponding~~ in correspondence to [[the]]

5    a set-up input channel selection order for each channel to [[the]] an encoder;

6        selecting a prediction memory of channels corresponding to the [[input]] unit

7    frame data among the prediction memory with numbers corresponding to the number of

8    the input channels; and

9        encoding by using the data previously stored in the prediction memory and frame

10   data of [[the]] a current input channel.


1        15. (Currently Amended) A multi-channel image encoding apparatus for encoding

2    image signals [[input]] inputted through a plurality of input channels, comprising:

3        a channel data processor for selectively contacting with the plurality of input

4    channels and selectively outputting transmitted image information for each of the input

5    channels; and

6        an encoder for calculating a similarity by comparing image signals ~~output~~

7    outputted from the channel data processor and [[the]] previous frame data stored in

8    [[the]] a frame memory provided for corresponding channels, and selecting one mode

9    among a plurality of encoding modes set up differently for each other [[in]] with regard to

10   [[the]] present frame data in accordance with the calculated similarity and encoding

11   according to the selected encoding mode;

12       said channel data processor comprising a first multi-switch unit for selectively

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13      contacting each of the input channels with a frame buffer of corresponding channels, and

14      a second multi-switch unit for selectively contacting an encoder with the frame buffer,

15      and outputting data outputted from the frame buffer to the encoder.


1       16. (Currently Amended)  The multi-channel image encoding apparatus of claim

2       15, [[with]] wherein the plurality of encoding modes comprising comprises:

3               a first mode for encoding the present frame data with an intra coding method; and

4               a second mode for encoding data gained by subtracting the previous frame data

5       from the present frame data.


1       17. (Currently Amended)  The multi-channel image encoding apparatus of claim

2       16, with the said encoder comprising:

3               an encode unit for encoding; and

4               a similarity calculation unit for determining a corresponding encoding mode by

5       calculating the similarity, controlling the encode unit to perform the determined encoding

6       mode, and outputting determined encoding mode information.


        Claim 18. (Canceled)


1       19. (Currently Amended) The multi-channel image encoding apparatus of claim

2       [[18]] 15, with the said encoder comprising:

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3    an intra frame coder for intra coding with respect to [[input]] inputted image

4    signals;

5    an intra frame decoder for decoding with respect to signals ~~output~~ outputted from

6    the intra frame coder;

7    an adder for adding data ~~output~~ outputted from [[the]] a selected frame memory

8    and data ~~output~~ outputted from the intra frame decoder, and outputting the added data to

9    the frame memory of corresponding channels;

10    a subtracter for subtracting data ~~output~~ outputted from the selected frame memory

11    from signals [[input]] inputted through the second multi-switch unit and outputting the

12    subtracted signal to the intra frame coder; and

13    a frame memory selection unit for controlling the frame memory of channels

14    corresponding to channels selected by the second multi-switch unit accommodating to be

15    contacted between the adder and the subtracter by being controlled by the similarity

16    calculation unit.


1    20. (Currently Amended) The multi-channel image encoding apparatus of claim

2    17, ~~further comprised of the~~ said similarity calculation unit calculating a similarity by

3    comparing previous screen data stored in the selected frame memory by [[the]] a frame

4    memory selection unit and frame data of a selected channel by ~~the second~~ a multi-switch

5    unit with a set-up macro block unit, and determining an encoding mode with the set-up

6    macro block unit.

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1    21.  (Currently Amended) The multi-channel image encoding apparatus of claim

2    20, ~~further comprised of the~~ said similarity calculation unit determining a calculated

3    similarity as the first mode[[,]] when the calculated similarity is greater than a set-up

4    reference value, and as the second mode[[,]] when the calculated similarity is less than

5    [[a]] set-up reference value.


1    22.  (Currently Amended) The multi-channel image encoding apparatus of claim

2    19, further comprising:

3        a channel selection unit for setting up a channel select pattern to encode [[in]] with

4    regard to the plurality of input channels; and

5        a channel controller for controlling the first multi-switch unit, the second multi-

6    switch unit, and the frame memory selection unit so as to encode received images in

7    accordance with a channel select pattern selected by the channel selection unit.


1    23.  (Currently Amended) An encoding method of a multi-channel image encoding

2    apparatus for selectively receiving image signals transmitted through a plurality of input

3    channels and encoding the image signals, comprising the steps of:

4        outputting unit frame data for each channel to [[the]] an encoder by selecting the

5    input channels in accordance with a set-up encode order;

6        selecting frame memory of channels corresponding to [[input]] inputted unit frame

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7  data among frame memory having numbers corresponding to the number of input

8  channels;

9  calculating a similarity by comparing data previously stored in selected frame

10  memory with frame data of currently inputted channels; and

11  encoding the present frame data by an intra coding method[[,]] when the similarity

12  is less than a set-up reference value.


1  24.  (Currently Amended)   The encoding method of a multi-channel image

2  encoding apparatus of claim 23, further comprised of wherein when the similarity

3  [[being]] is greater than the reference value, then data gained by subtracting previous data

4  from present data is encoded.


1  25.  (Currently Amended)   The encoding method of a multi-channel image

2  encoding apparatus of claim 23, further comprised of the similarity calculation being

performed with a set-up macro block unit.


1  26.  (Currently Amended)    [[The]] A multi-channel image encoding apparatus of

2  claim 1, with for selectively receiving image signals transmitted through a plurality of

3  input channels and encoding the image signals, comprising:

4  a channel data processor comprising a frame buffer group including a plurality of

5  frame buffers for each input channel in order to receive a plurality of frame data through

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6   the plurality of input channels and to store the plurality of frame data, the channel data

7   processor selecting data transmitted to the frame buffer group to output the selected data,

8   the channel data processor storing each unit of the frame data into the frame buffer group

9   corresponding to each channel in accordance with a set-up input channel selection order;

10   and

11   an encoder for encoding image signals output from the channel data processor with

12   a Moving Picture Experts Group method;

13   said channel data processor comprising:

14   a first multi-switch unit selectively contacting each one of the input

15   channels with the plurality of frame buffers of the frame buffer group

16   corresponding to said each one of the input channels, said each one of the

17   input channels corresponding to a specific and exclusive plurality of frame

18   buffers in the frame buffer group; and

19   a second multi-switch unit for selectively contacting with said each

20   one of the plurality of frame buffers of the frame buffer group

21   corresponding to said each one of the input channels, and outputting to the

22   encoder data ~~output~~ outputted from the plurality of frame buffers of the

23   frame buffer group corresponding to said each one of the input channels, ~~to~~

24   ~~the encoder~~.

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